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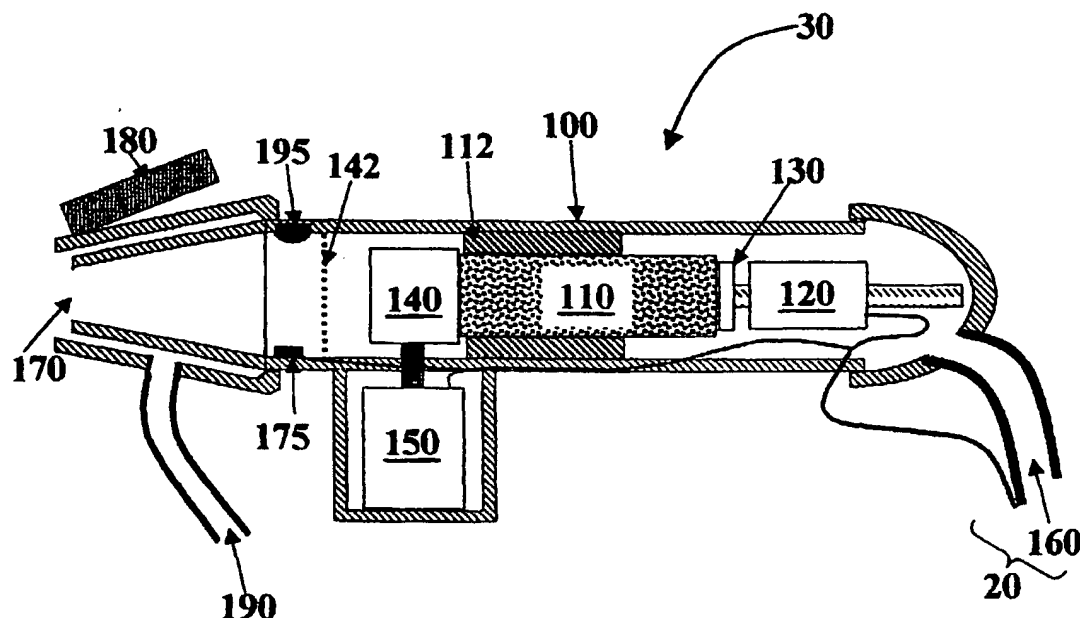
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[Continued on next page]

(54) Title: TISSUE REMOVAL USING BIOCOMPATIBLE MATERIALS



(57) Abstract: Biocompatible materials are propelled at the skin with sufficient velocity to cause desired resurfacing of tissue to the desired penetration depth. The materials, such as dry ice or water ice, are harmonious with the human body and thus eliminate foreign body reactions. Various materials may be in used in combination, including local anesthetics and vasoconstrictors in solid or liquid form. The biocompatible solid or liquid particles are suspended in a cold carrier fluid and propelled through an insulated delivery system to the surface of the skin. The treatment of diseased skin lesions may be accomplished using the present invention as a drug delivery system.



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INTERNATIONAL SEARCH REPORT

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A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 A61K7/50 A61B17/54 A61M37/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 A61B A61M

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X A	US 5 931 721 A (ROSE PETER H ET AL) 3 August 1999 (1999-08-03) column 9, line 44 -column 10, line 37; figure 1	29,43 30-42, 44-93
Y A	US 5 971 999 A (NALDONI MORENO) 26 October 1999 (1999-10-26) column 4, line 66 -column 6, line 30; figures 4A,4B,5A,5B	29, 43-50,52 30-42, 51,53-93
Y A	WO 99 37229 A (VERY INVENTIVE PHYSICIANS INC) 29 July 1999 (1999-07-29) page 5, line 13-24	29, 43-50,52 30-42, 51,53-93

☐ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents:

- "A" document defining the general state of the art which is not considered to be of particular relevance
- "E" earlier document but published on or after the international filing date
- "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- "O" document referring to an oral disclosure, use, exhibition or other means
- "P" document published prior to the international filing date but later than the priority date claimed

- "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
- "&" document member of the same patent family

Date of the actual completion of the international search

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INTERNATIONAL SEARCH REPORT

International Application No.
PCT/US 01/46462

Box I Observations where certain claims were found unsearchable (Continuation of Item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☒ Claims Nos.: 1-28
because they relate to subject matter not required to be searched by this Authority, namely:
Rule 39.1(iv) PCT - Method for treatment of the human or animal body by therapy
2. ☐ Claims Nos.:
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☒ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☒ No protest accompanied the payment of additional search fees.

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. Claims: 29-55

Treatment apparatus comprising means for forming frozen biocompatible particles and means for propelling said frozen biocompatible particles with a cold carrier gas.

2. Claims: 56-93

Treatment apparatus comprising a housing connected to a control unit, means within said housing for removing material from a frozen unit of biocompatible material to produce particles and means for ejecting said particles from said housing.

INTERNATIONAL SEARCH REPORT

International A: **10**
PCT/US 01/40402

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